

ASSIGNMENT 5

Textbook Assignment: "Plotting," chapter 10, pages 10-1 through 10-45; "Maneuvering Board," chapter 11, pages 11-1 through 11-28.

5-1. What are the principle bearings used in CIC?

1. True and apparent
2. True and relative
3. Relative and apparent
4. True and magnetic

5-2. Target angle is the relative bearing of own ship from a target ship.

1. True
2. False

5-3. Your ship is steaming on course 120°T. You hold a contact bearing 020°T, at a range of 6 miles, and on course 180°T. What is the target angle?

1. 200°
2. 180°
3. 120°
4. 020°

5-4. Your ship is steaming on course 230°T. A target is reported on the starboard beam. What is the relative bearing of the target?

1. 090°
2. 140°
3. 270°
4. 320°

5-5. Your ship is steaming on course 250°T. A target is reported by the lookout bearing 325° relative. What is the true bearing of the target?

1. 035°
2. 070°
3. 215°
4. 285°

Your ship is on course 215°T. You have determined the course of SKUNK "A" to be 335°T and estimate that its bearing will be 200° when it comes within visual range. The contact's present bearing is broad on the port bow.

Figure 5A

IN ANSWERING QUESTIONS 5-6 THROUGH 5-9, REFER TO FIGURE 5A.

5-6. What is your ship's present true bearing from the contact?

1. 135°
2. 170°
3. 315°
4. 350°

5-7. Since lookouts do not use true bearings, you tell the lookout he can expect to see the contact at what relative bearing?

1. 015°
2. 055°
3. 170°
4. 345°

5-8. Your ship is on a true heading of 215°. What is the true bearing of skunk "B" that bears 180° relative?

1. 035°
2. 045°
3. 090°
4. 120°

5-9. The captain wants to know what the target angle will be when skunk "A" bears 190°T. What answer should you give him?

1. 010°
2. 035°
3. 155°
4. 190°

5-10. Which of the following standard CIC displays is a true display?

1. Formation diagram
2. Geographic plot
3. Summary plot
4. AA coordination plot

5-11. What type of display is shown on the surface plot?

1. Relative
2. True
3. Geographic
4. Static

IN ANSWERING QUESTIONS 5-12 THROUGH 5-15, REFER TO TABLE 10-1 OF THE TEXT.

5-12. What abbreviation indicates an assumed friendly emission?

1. VOL
2. DK
3. MOB
4. PIN

5-13. What abbreviation indicates an enemy guided-missile signal?

1. VOL
2. DK
3. MOB
4. PIN

5-14. What abbreviation indicates a radar decoy?

1. VOL
2. DK
3. MOB
4. PIN

5-15. What abbreviation indicates a man overboard?

1. VOL
2. DK
3. MOB
4. PIN

5-16. Ships in a formation are generally identified by what means on surface summary plots?

1. Their names
2. Their radio call signs
3. Their hull numbers
4. Their battle plan code names

5-17. How many marks must you make to determine the initial course and speed of a contact?

1. Five
2. Two
3. Three
4. Four

5-18. The formation diagram is kept in what type of coordinates?

1. Cartesian
2. Polar
3. Relative
4. True

5-19. The surface status board contains all but which of the following information?

1. Threat axis
2. PIM
3. Formation axis
4. Bearing and range to the guide

5-20. The strategic plot is a large-area relative display of an operating area.

1. True
2. False

5-21. What is the normal scale used for the air summary plot?

1. 5 nm per circle
2. 10 nm per circle
3. 20 nm per circle
4. 50 nm per circle

5-22. The plotting symbol for unknown contacts is based on what basic shape?

1. Square
2. Circle
3. Diamond

5-23. The plotting symbol for an air contact is based on what portion of the basic plotting symbol?

1. The upper half of the symbol
2. The whole symbol
3. The lower half of the symbol

5-24. An unknown aircraft is referred to by what term until it is identified?

1. Skunk
2. Bogey
3. Unknown Air
4. Target

- 5-25. To plot a faded air contact on the air summary plot, you use a series of slashes after the last known position of the contact.
1. True
 2. False
- 5-26. When an air contact splits, the portion of the contact maintaining the course and speed of the original track maintains the previously assigned designation.
1. True
 2. False
- 5-27. What is the minimum number of plots required to ascertain a change in course and speed of an air contact beyond 20 miles?
1. Six
 2. Five
 3. Three
 4. Four
- 5-28. The tote board keeper records information received from which of the following positions?
1. The air search radar operator
 2. The air controller
 3. The R/T net plotter
 4. All of the above
- 5-29. Who specifies the most suitable reporting method to use based on the situation?
1. Commanding officer
 2. Air warfare coordinator
 3. CIC watch officer
 4. Officer in tactical command
- 5-30. What is the quickest method of conversion plotting?
1. Parallelogram
 2. Direct measurement
 3. Right triangle
 4. Bearing-range ratio
- 5-31. What watch station is the heart of ASW operations in CIC?
1. ASTAC
 2. TMA supervisor
 3. ASWO
 4. DRT plot
- 5-32. During ASW plotting, what color is used to plot an assist ship?
1. Black
 2. Blue
 3. Green
 4. Purple
- 5-33. When the Halifax plot is used for ASW operations, the DRT south plotter is only responsible for which of the following duties?
1. Plotting the assist ship
 2. Plotting the submarine at 15-second intervals
 3. Plotting own ship's position at 15-second intervals
 4. Plotting the submarine's estimated position every 30 seconds
- 5-34. Target motion analysis (TMA) is a method of plotting using information gained from passive means.
1. True
 2. False
- 5-35. To develop an understanding for TMA, you must first learn and understand what concept?
1. Angle on the bow
 2. Fire control triangle
 3. Passive ASW
 4. Line-of-sight (LOS) diagram
- 5-36. How are (a) angle on the bow and (b) target angle determined?
1. (a) measured clockwise 0° to 360° from the target's bow
(b) measured 0° to 180° port or starboard from the target's bow
 2. (a) measured 0° to 180° from own ship's bow
(b) measured 0° to 180° port or starboard from the target
 3. (a) measured 0° to 180° port or starboard from the target's bow
(b) measured clockwise from the target's bow in full 360° circle
 4. (a) measured 0° to 180° port or starboard from own ship's bow
(b) measured clockwise from own ship's bow in full 360° circle

- 5-37. What term is given to the angle measured from DRM to the LOS?
1. Angle on the bow
 2. Bearing rate
 3. Range rate
 4. Relative angle on the bow
- 5-38. What is the change in target bearing in degrees per minute called?
1. Bearing rate
 2. Range rate
 3. Faired bearing
 4. Faired range
- 5-39. What is the primary objective for establishing bearing rate?
1. To calculate reverse angle on the bow
 2. To calculate range to the target
 3. To calculate target course and speed
 4. To calculate target depth

IN ANSWERING QUESTION 5-40, REFER TO FIGURE 10-16 OF THE TEXT.

- 5-40. You are plotting on the time/bearing plot and notice the bearing rate starting to increase rapidly. What does this indicate?
1. The contact has stopped
 2. The contact is opening in range
 3. The contact is approaching CPA
 4. The contact is turning
- 5-41. As the time/bearing plotter, you notice a change in direction of bearing drift. What does this indicate about the contact?
1. It is turning
 2. It is opening
 3. It is closing
 4. It is at CPA
- 5-42. When the plotted bearings are faired, the faired line should be drawn through a minimum of how many plotted bearing points?
1. 6
 2. 8
 3. 10
 4. 12

- 5-43. Using the strip plot and an assumed target speed, a plotter can determine which of the following factors?
1. Target speed
 2. Target range
 3. Target course
 4. Both 2 and 3 above
- 5-44. Using faired bearings on the strip plot instead of raw sonar bearings causes the plot to lag the actual TMA problem.
1. True
 2. False
- 5-45. What does the line drawn along the fitted strip on the strip plot represent?
1. Target range
 2. Target speed
 3. Target course
- 5-46. Own ship and the target are moving in opposite directions relative to the LOS. If all bearing lines cross at the same place between target and own ship, what does this position indicate?
1. Minimum range
 2. Actual range
 3. Maximum range

Own ship's course is 320°T, speed 5 knots. Target bearing is 200°T. Assumed target speed is 10 knots. Bearing rate is right 0.5°/minute.

Figure 5B

IN ANSWERING QUESTIONS 5-47 AND 5-48, USE THE COFFEY ASSUMPTION TECHNIQUE AND THE INFORMATION PROVIDED IN FIGURE 5B.

- 5-47. What is the target's opening course after the correction has been applied?
1. 354°
 2. 226°
 3. 201°
 4. 019°

5-48. What is the target's closing course after corrections have been applied?

1. 354°
2. 226°
3. 201°
4. 019°

NOTE

BEFORE YOU WORK THE MANEUVERING BOARD PROBLEMS BELOW, STUDY CHAPTER 11 CAREFULLY. PAY PARTICULAR ATTENTION TO THE TERMS, DEFINITIONS, AND PROCEDURES USED IN THE TEXT. THE QUESTIONS DO NOT NECESSARILY FOLLOW THE SEQUENCE OF THE TEXT DUE TO THE NATURE OF THE MATERIAL. ALL COURSES AND SPEEDS ARE TRUE UNLESS INDICATED OTHERWISE.

5-49. The movement that takes place between two objects when one or both are moving is called what type of motion?

1. Resultant
2. Geographical
3. Relative
4. Directional

5-50. Assume that your ship is steaming on course 180° and a target is sighted at a range of 10 miles, bearing 270°. One hour later the range and bearing of the target are 5 miles at 270°. What is the direction of relative motion?

1. 090°
2. 180°
3. 270°

Your ship is steaming on a course of 50°, speed 15 knots. At 0900 a contact is detected at a bearing of 045°, range 15,500 yards. At 0910 the contact is at a bearing of 060°, range 13,000 yards.

Figure 5C

IN ANSWERING QUESTIONS 5-51 AND 5-52, REFER TO FIGURE 5C.

5-51. What is the contact's direction of relative motion?

1. 180°
2. 175°
3. 115°
4. 050°

5-52. What is the contact's relative speed?

1. 20 kts
2. 15 kts
3. 11 kts
4. 7 kts

IN ANSWERING QUESTIONS 5-53 AND 5-54, REFER TO FIGURE 11-5 IN THE TEXT.

5-53. What does the *er* vector represent?

1. Own ship's course and speed
2. Contact's course and speed
3. Relative course and speed between M and R

5-54. What does the *rm* vector represent?

1. Own ship's course and speed
2. Contact's course and speed
3. Relative course and speed between M and R

5-55. If you are tracking a contact at a range of 32,000 yards, what range scale should you use on the maneuvering board?

1. 2:1
2. 3:1
3. 4:1
4. 5:1

5-56. What is the recommended scale to use for the speed scale?

1. 2:1
2. 3:1
3. 4:1
4. 5:1

5-57. You are plotting a contact that will vary in range from 7,000 yards to 29,500 yards. You want to use one scale throughout the plot. What scale should you use?

1. 2:1
2. 3:1
3. 4:1
4. 5:1

5-58. Approximately how many minutes does it take a ship to travel 35,000 yards at a speed of 19 knots?

1. 40
2. 45
3. 50
4. 55

5-59. What is the speed of a ship that travels 3,600 yards in six minutes?

1. 1.8 kts
2. 3.6 kts
3. 18.0 kts
4. 36.0 kts

You are on course 090° at speed 10 knots at time 0305. You hold a contact bearing 000° at 9,200 yards. At time 0311, the contact bears 040° at 8,000 yds.

Figure 5D

IN ANSWERING QUESTIONS 5-60 THROUGH 5-62, REFER TO FIGURE 5D.

5-60. What is the contact's speed of relative motion?

1. 3 kts
2. 30 kts
3. 60 kts
4. 70 kts

5-61. What is the contact's direction of relative motion?

1. 031°
2. 121°
3. 179°
4. 301°

5-62. What is the contact's bearing at its closest point of approach (CPA)?

1. 031°
2. 121°
3. 179°
4. 211°

Your ship is on course 050° at a speed of 10 knots. A surface contact is reported and you are ordered to determine the contact's CPA. You receive the following range and bearing information:
0930-020/12,000; 0933-027/10,600;
0936-036/9,400; 0939-047/8,500

Figure 5E

IN ANSWERING QUESTIONS 5-63 THROUGH 5-66, REFER TO FIGURE 5E.

5-63. What is the contact's direction of relative movement?

1. 110°
2. 159°
3. 173°
4. 227°

5-64. What is the bearing of the contact's CPA?

1. 019°
2. 069°
3. 199°
4. 249°

5-65. What is the range of the contact's CPA?

1. 3,900 yds
2. 7,200 yds
3. 7,800 yds
4. 8,100 yds

5-66. How long will it take the contact to arrive at its CPA from the last plotted position?

1. 2.5 min
2. 3.0 min
3. 4.8 min
4. 9.6 min

5-67. Using the 3-minute rule, how far will a ship travel in 5 minutes at a speed of 12 knots?

1. 120 yds
2. 200 yds
3. 1,200 yds
4. 2,000 yds

Your ship is the flagship of a formation on course 175°, at a speed of 15 knots. At 1400 the surface search radar operator reports a contact bearing 185°, range 29,000 yards. The contact is designated SKUNK "A" and you begin tracking, receiving the following bearing and range reports: 1403-182/27,200; 1406-178/25,300; 1409-174/23,600.

Figure 5F

IN ANSWERING QUESTIONS 5-68 THROUGH 5-70, REFER TO FIGURE 5F.

- 5-68. What are the course and speed of skunk "A"?
1. 042° - 24 kts
 2. 080° - 18 kts
 3. 130° - 17 kts
 4. 250° - 20 kts
- 5-69. At what time will the contact cross ahead of the flagship?
1. 1406
 2. 1407
 3. 1408
 4. 1409
- 5-70. When at CPA, skunk "A" will have what bearing and range?
1. 042° - 12.0 miles
 2. 090° - 12.0 miles
 3. 132° - 8.8 miles
 4. 312° - 8.8 miles

At 1415 SKUNK "A" is identified as a friendly cruiser and is redesignated as a friendly. At 1416 the cruiser is ordered to continue on its present course and speed until it arrives at CPA, then take station 6 miles on the port beam of the flagship.

Figure 5G

IN ANSWERING QUESTIONS 5-71 THROUGH 5-74, REFER TO FIGURE 5G.

- 5-71. At what time will the cruiser reach its CPA?
1. 1415
 2. 1428
 3. 1440
 4. 1448
- 5-72. What is the cruiser's course to station using 15 knots?
1. 035°
 2. 175°
 3. 195°
 4. 355°
- 5-73. At what time will the cruiser arrive on station?
1. 1428
 2. 1441
 3. 1454
 4. 1530
- 5-74. If the cruiser steers a course to station of 173°, what speed will get it on station the quickest?
1. 5 kts
 2. 10 kts
 3. 15 kts
 4. 18 kts